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LECTURES.

CLINICAL LECTURE ON EPIDIDYMITIS AND HYDROCELE ASSOCIATED WITH URETHRAL STRICTURE.¹

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GENTLEMEN, — The patient before you I find presenting difficulties which it appears to me will form an interesting and instructive study. His name is John C., and his age is twenty-two years. He has, as you see, an enlarged scrotum, evidently due to distention of both scrotal cavities. That on the right is filled with a solid tumor about the size of a goose's egg, while that on the left, about the same size, is somewhat soft and evidently fluctuating. He has recently entered this hospital, and has been under treatment for syphilitic orchitis and hydrocele. His history, as bearing upon his present condition, is briefly as follows: He has had three distinct attacks of gonorrhœa: the first nine years ago, the second two years ago, and the third in March last. The first and second attacks were apparently due to contagion. The last is alleged to have supervened upon a painless gleet discharge (to which he had long been subject), and occurred at least a month subsequent to any acknowledged venereal exposure. Shortly after recovery from the second attack, — some two years since, — the patient noticed an enlargement of what was supposed to be his left testicle. This was without pain. It gave annoyance only on account of its size, and continuing for about two months disappeared spontaneously. About a year ago, however, the swelling returned. It was then ascertained to be caused by a hydrocele, and was tapped. About five months ago the right testicle became swollen and inflamed, causing great pain; so much so that the patient was obliged to take to his bed, and there remain for nearly three months previous to his entrance into the hospital. At this time the soreness and redness had quite disappeared, leaving it a solid, insensitive tumor.

¹ Delivered at Charity Hospital, Blackwell's Island, and reported by P. Brynberg Porter, M. D.

At the time of his first attack of gonorrhœa he had a sore on his penis, which was accompanied or followed by a suppurating bubo in the right groin. During the gonorrhœal attack of two years since he also had sores on the penis, but no bubo. In neither instance were the sores on the penis followed by an eruption on the body, or sores in the mouth or throat, or by falling of the hair. The patient states that he has suffered occasionally from rheumatism, and that in February last his right knee, arm, and hand were swollen and very painful, but without redness.

On a careful examination of the patient's body no mark of the pre-existence of any ulcerative lesion is detected, except one slightly depressed cicatrix on the external aspect of the left leg, near the junction of its middle and lower thirds. This cicatrix, as you can observe, is about the size of a dime, and of a dull reddish or rather yellowish color. Concerning its cause or the date of its establishment the patient is quite uncertain.

With this somewhat complicated history, given by the patient, let us proceed to its analysis, and see how far we can coincide with the alleged explanation of his troubles. The account of his early gonorrhœal difficulty is clear, and may, I think, be accepted without question. This of itself being a purely local trouble cannot convey any constitutional disease. It may, however, establish a permanent point of irritation in the urethra. The sores on the penis which accompanied this gonorrhœa were associated with a suppurating inguinal bubo. This by itself is *prima facie* evidence of their non-syphilitic origin. Except under the influence of a scrofulous dyscrasia or prolonged local irritation syphilitic buboes do not suppurate. Ricord long ago made this observation, and urged it as a strong diagnostic point. For my own part I always accept the *suppuration* of a venereal bubo as a strong proof against its syphilitic origin. This, however, does not militate against the possible acquirement of syphilis through the same contact which gave rise to the chancroid. I would say, then, that suppurating venereal bubo, *per se*, is evidence of chancroidal action, and that the sore preceding it is on that account presumably a simple chancroid. If, however, as is exceptionally the case, the sore preceding a suppurating bubo is followed by syphilis, then we know that both the chancroid and the syphilitic disease have been associated in the same sore, or that syphilis has originated in a concomitant lesion.

The second attack of gonorrhœa was also complicated with one or more sores on the penis, but without the accompaniment of the suppurating bubo. From the time of the first sores nine years ago, however, there has been not a single recognized evidence of constitutional syphilis up to the occurrence of the scrotal enlargement, unless we accept the cicatrix on the leg or the temporary rheumatic attacks to which he has referred.

In regard to the cicatrix there is nothing to suggest a syphilitic origin, except, perhaps, its yellowish color. Sores from ordinary causes in this locality are often pigmented to a greater extent. His rheumatic attacks have left no trace; the last, the only one of which he has any definite remembrance, was associated with his alleged attack of gonorrhœa last spring, and this chiefly affected the right knee and wrist. As far as this suggests any specific cause it is a gonorrhœal rather than a syphilitic one, the knee and wrist being so frequently affected in gonorrhœal rheumatism that its localization in these points may be considered significant. It appears to me, then, that we may safely eliminate the syphilitic element from this case as far as any constitutional evidence is concerned. Now, in regard to the local trouble, first, of the left pouch of the scrotum: the patient's attention was first attracted to it by the size of the swelling,—not by the receipt of any local injury, not by pain or by weight,—simply by increased size of the scrotum. We may at once eliminate syphilitic sarcocele, which always attracts attention by its weight before reaching any considerable size; also, we can throw out the idea of acute epididymitis, which is always ushered in with pain. That it is not a scrotal hernia we are assured by the absence of any impulse through the tumor when the patient coughs. That it is not a hæmatocele we suspect first by its lack of weight. But we will make the crucial test by the application of light. The tissues of the scrotum, unless changed by long-continued inflammatory action, are semilucid. The serum of a hydrocele is transparent. In a hæmatocele, or effusion of blood into the scrotal cavity, the tumor is necessarily opaque. Now, placing the patient on a chair, and raising the scrotum so that it shall intervene between your eye and the sunlight or (as here) a lighted candle, shutting out the light behind by means of an ordinary cylindrical speculum, or by rolling up a bit of thick paper so as to make a tube four or five inches long, we look through the tube pressed against the tumor. We can distinctly appreciate the transmission of light through the tumor. A luminous glow is present, such as that (though in somewhat less degree) which you observe through the fingers when held between the eye and any strong light. Pass the hand back and forth between the candle and the tumor, and you will prove that the light is transmitted through the tumor. It is, then, a hydrocele. The bulk of a tumor connected with a syphilitic sarcocele is not unfrequently due to an associated hydrocele. In such case the condition of the testicle, including the epididymis, cannot be made out with any certainty until the fluid contents of the tunica vaginalis are withdrawn. In the present instance we shall proceed to effect this by puncture with an ordinary trocar (aspiration through a small perforated needle is a more elegant and less painful method). The tumor is largely grasped from below and behind, making the cover-

ings on its anterior aspect more tense. Then, avoiding the large superficial veins which you see here and there, plunge in the trocar at the most salient point with a quick, sharp stroke, thus, to the depth of about an inch. In this way you avoid the chance of pushing the wall of the tunica vaginalis before the instrument, and enter with certainty into its cavity. The withdrawal of the trocar is followed, as you see, by the clear, straw-colored fluid characteristic of the contents of a hydrocele. We are now able to examine the testicle and its appendages. The former is found to be free from undue sensibility and of normal size. The epididymis is somewhat enlarged, but presents no evidence of disease. In short, we have here a classical idiopathic hydrocele, an affection which I believe of much less frequent occurrence than is usually accepted. Nevertheless, the ordinary causes, such as local injury, cold, previous inflammation of contiguous parts, general hydræmia, syphilitic or tubercular disease, are apparently absent. One cause of hydrocele, however, and a most important one, I have not mentioned, and this is prolonged irritation in the urethral canal caused by stricture. Sir Everard Home, in his work on the Urethra, published in about the year 1800, alludes to this as a cause of hydrocele, and cites several cases in point. Since then, however, this fact has been in great measure lost sight of, but I have observed it so often that in cases of hydrocele I invariably examine the urethra for stricture, and in the absence of other causes rarely fail to find it. There is no history of stricture in this case nor any complaint on the part of the patient (such as trouble in urinating or localized pain, etc.) which would lead to the suspicion of it, but the repeated attacks of gonorrhœa, and especially the last, which is alleged to have occurred independently of any venereal exposure, point directly to the probability of stricture. We will now proceed to make an examination of the urethra with the view of determining the presence or absence of stricture. In order to do this we must first ascertain, as far as possible, the normal calibre of the canal presenting. No urethrometer being at hand, this may be estimated on the basis of its proportionate relation to the size of the penis. The penis here measures 3+ inches in circumference. The average relation being 1 to $3\frac{1}{2}$, reduced to millimetres we then have a circumference of 30 mm. as the size of the normal urethra in this case. In proceeding with the examination it will be seen first that the urethral orifice is greatly contracted, measuring as thus tested by the bulbous sound only 18 mm. The value of this contraction (accepting the normal calibre as 30) is 12 mm.; quite sufficient, in my opinion, to be considered a possible cause of reflex trouble which should produce a disturbance of the functions of the tunica vaginalis testis; quite sufficient to disturb the equilibrium between its secreting and absorbent vessels, and in this way result in an accumulation of the fluid, the natural secretion of the part thus constituting a

hydrocele. This I have seen in repeated instances, and where the accumulation of fluid is small — say from one to two ounces — have known it to disappear promptly on a restoration of the meatus to the calibre of the normal urethra. In this case, however, we have something more than a contracted urethral orifice. The exploring bulb — 18 mm. in circumference — is abruptly arrested at $2\frac{1}{3}$ inches. We substitute bulbous sounds of smaller and smaller size, until one is found going through the narrowed canal; this one, passing reluctantly through as you observed, indicates the size of the stricture. It is 14 mm. in circumference, and, as you can also see, the bulb moves freely up and down the urethra behind the stricture. Now as we attempt to withdraw it the shoulder of the bulb is arrested at the posterior border of the obstruction. You will remember that the larger instruments were arrested at $2\frac{1}{3}$ inches from the orifice. Marking the depth of the posterior border of the stricture with your finger on the shaft of the bulbous sound, gently withdraw it, and you will find the difference between this measurement and that down to the anterior face of the contraction ($2\frac{1}{3}$ inches) to represent the breadth of the stricture. It is there found to be a trifle over a quarter of an inch in breadth. Here, then, we demonstrate the presence of stricture sufficient to establish a permanent point of irritation in the urethra. Such strictures are capable of producing recurring epididymitis of every grade, from that which causes slight swelling and tenderness to the most acute form of the trouble, and this, too, sometimes without the presence of any perceptible urethral discharge. My own observation leads me to believe that the lighter forms of trouble, such as chronic sensitiveness and occasional slight swelling, also various grades of hydrocele, are the result of reflex irritation transmitted from the point of stricture, and that the attacks of acute epididymitis are due to the extension of the inflammation, the urethritis associated with stricture, along the track of the vas deferens, as in epididymitis accompanying ordinary gonorrhœa.

The hydrocele in the present instance came on without apparent cause, lasted for a few weeks, and passed off without treatment. The cause, then, must have been removed, or toleration was acquired which finally enabled the absorbents to take up the excess of fluid. How, then, was the trouble again reëstablished? This certainly points to a permanent and increasing source of irritation as a cause of the hydrocele, such as we might find in a urethral stricture.

Passing now to the opposite side, we find a solid tumor representing the testicle and epididymis. The history of its accession is distinctly inflammatory. The patient's attention was first called to the trouble not by the swelling nor by the weight, but by the pain and tenderness of the part. The history is one of an ordinary acute epididymitis prolonged, with great suffering, confining the patient to his bed for several months.

There is nothing about this to suggest syphilitic sarcocele, or any other form of trouble except an epididymitis, which from some unusual aggravation has gone on to involve the structure of the testicle, — a rare occurrence, — orchitis by extension from epididymitis. We naturally inquire in what this unusual aggravation consisted. In answer, I will point to the continued source of irritation and inflammation afforded by the continued presence of extensive urethral stricture.

The indications for treatment in this case seem to me to be plain, namely, to clear out the urethral obstructions, and thus restore the urethra to its normal calibre throughout. It is not probable that this will suffice to prevent reaccumulation of fluid in the tunica vaginalis. The chronic nature of the difficulty in the present instance will most likely necessitate the usual method of treatment in such cases, namely, injection of tincture of iodine or its equivalent.

The absorption of the products of inflammation in the right testis and its appendages will be favored by the removal of the urethral strictures, but here also additional treatment will be advisable. Efficient support is the first requirement. Equable pressure by strapping will be of service, and, as the tumor is quite free from tenderness, will be well borne. This for a few days, then continuous and prolonged hot fomentations and anointing with a ten per cent. solution of the oleate of mercury for a few days, then resume the treatment by pressure; thus alternating until the tumor becomes too small to be strapped, when support and inunction may be continued as long as is required.

Our failure to detect any special dyscrasia in this case, and the good general condition of the patient, appear to me to contraindicate the use of any constitutional remedies.

THYMOL, THE NEW ANTISEPTIC.

BY ROBERT WHITE, JR., M. D.

THIS new therapeutic agent is receiving marked attention among the British and Continental surgeons, and bids fair to supplant carbolic acid in the supremacy it has so long maintained as the most available surgical antiseptic that we possess, despite the marked disadvantages frequently attending its use.

Thymol or thymic acid is the essential principle of the oil of thyme, obtained from the common garden thyme (*thymus vulgaris*) and allied plants, and very plentifully from a species of East Indian phycotis. It is an oxidized principle ($C_{10}H_{14}O$), and separates from the hydro-carbon elements of the essential oil by freezing, or by the addition of a caustic alkali, from which it is in turn precipitated. It may be prepared directly from the plant by distillation. By the alkali method an uncrys-

tallizable liquid is produced; by the other processes white, rhombic, and needle-shaped prisms with a strong odor of thyme result.

Thymol was discovered in the beginning of the eighteenth century, but attracted no attention as a therapeutic agent until within ten years. Bouillon and Paquet pointed out its antiputrescent qualities, and used it for deodorizing unhealthy wounds. Its true antiseptic action, in the present acceptance of the term, was first demonstrated by Lewin, of Berlin; in an extended series of experiments he showed that it arrested saccharine fermentation, powerfully retarded lactic fermentation, checked fermentation in the stomach, and prevented decomposition. He also first demonstrated that while it is a more powerful antiseptic than carbolic acid, it is much less poisonous to the system, and is quite free from local irritant action. From the experiments of Lewin and Bucholz it appears that thymol has a much greater destructive power over the low forms of life that attend putrefaction than carbolic acid, the ratio being as ten to one. Its power in this respect has been attested by careful and extended observations. Its efficiency as an antiseptic being admitted, it remains to inquire into its action on the organism as a whole, and on the tissues to which it may be applied, as compared with the effects of carbolic acid, with reference to its employment for surgical purposes. The disadvantages of the latter may be briefly stated to be its offensive odor, its tendency to irritate the skin when long employed, the occasional constitutional toxic effects, and most particularly its direct irritant action on wounded tissues, by which adhesion is prevented, the secretions greatly increased, and the frequent renewal of the dressings required. In the use of carbolic acid in any form as a surgical dressing these effects result in a greater or less degree, and interfere with the healing of the wound, but they become especially apparent in the practice of antiseptic surgery as taught by Lister, and it is in the practice of this system of surgery that the advantages of thymol over the agent heretofore employed will be most marked. Here the action of the spray and carbolic acid ablutions during the operation and dressing is followed by a very free sero-sanguineous discharge, which usually saturates the dressings by the end of twenty-four hours; so that Mr. Lister insists, as a fundamental rule, that the first dressings should always be changed at the end of that time to prevent putrefaction from the abundant discharge coming in contact with the air. As the effects of the action of the carbolic acid on the wound pass off, the discharge lessens, and the intervals between the dressings are increased to two, four, six, or eight days. It is safe to say that were it not for the irritant action of the carbolic acid on the tissues the longer intervals might be employed from the first. Then the carbolic gauze which constitutes the principal dressing would, if allowed to come in contact with the edges or surface of the wound, exercise a directly injurious effect on it

from the irritant action of the antiseptic with which it is charged ; therefore a "protective" of oiled silk is required between the gauze and the wound, thus tending toward what every surgeon seeks to avoid, complication. Despite all precautions it too often becomes evident that the carbolic acid in the dressings is exercising an irritant action on the wound ; at times even producing constitutional symptoms.

Volkman and Ranke, of Halle, who have for five years most conscientiously employed Lister's method, with very satisfactory results (their late report showing seventy-five cases of compound fracture with recovery in every instance), have recently substituted the use of thymol for carbolic acid in the dressings, but without other essential change in Lister's method. Each one thousand parts of the gauze was charged with a mixture of five hundred parts of spermaceti, fifty of resin, and sixteen of thymol, the resin and spermaceti being used to prevent the too rapid evaporation of the volatile antiseptic. This thymol gauze is soft and pliable, and on account of the bland character of the antiseptic may be applied directly to the wound without the intervention of the "protective" required for the more irritative carbolic gauze ; it thus readily absorbs the discharges, "soaking them up from the surface of the wound like a sponge." A loose mass of the gauze is usually placed on the wound for this purpose, and covered in by the outer dressing arranged as usual in eight layers, with gutta-percha or waterproof cloth between the two outer layers to prevent the discharge from penetrating directly to the air, and the whole well secured by bandages prepared in the same manner as the gauze. From a well-applied dressing the antiseptic evaporates so slowly that at the end of a week it still smells strongly enough of the thymol to prevent putrefaction so long as the discharge does not penetrate through the bandages. On the slightest appearance of this on any part of the surface the dressing should be renewed. A recent report by Dr. Ranke, the assistant of Volkman, gives the results of the treatment of fifty-nine cases by what may be called the Lister-thymol system. The operations comprise an excision of the hip, of the knee for scrofulous caries, of the shoulder ; four excisions of the elbow ; secondary amputation of the thigh ; three amputations of the leg ; amputation of the arm, of the mamma, and of the foot ; gunshot wound of knee ; two radical operations for hernia ; seven radical operations for hydrocele, — certainly a severe enough series of injuries fairly to test any system of treatment. In five per cent. of these the discharge was purulent, in twenty per cent. it was serous, and the remaining three fourths healed without suppuration or secretion of any kind ; "that is to say, on the removal of the bandages the skin of the parts was found to be absolutely dry, and not a drop of discharge could be squeezed from the dressings."

The advantages that thymol possesses over carbolic acid for surgical

purposes appear to be briefly as follows: the offensive odor, the pulmonary irritation, the anæsthesia and desquamation of the skin of the hands which follow the constant use of carbolic acid, and are a source of great annoyance to some surgeons, are wholly avoided by the use of thymol, and render its employment much more agreeable; on the patient its use is never attended with constitutional symptoms; in proper dilution it does not produce the various forms of dermatitis that follow the prolonged application of carbolic acid to the skin, but on the contrary, when these do exist, they subside on substitution of the thymol dressing for that which produced them; it causes no irritation in the edges of the wound; and the amount of discharge from the wounded tissues is very much less than under similar dressings charged with carbolic acid. This last point is one of the very greatest importance, and it is hardly necessary to dwell on the advantages that a wound healing with a minimum of discharge, requiring change of dressings only every four, six, or eight days, possesses over one attended with free secretion, even if it be not purulent, with its accompaniments of tension, necessary provision for drainage, and frequent disturbance of the part for the change of dressings required by the abundant secretion; this, too, at the most critical period of the healing process, when the element of rest is such an essential one. In most of Volkmann's cases the dressings were not changed until the time for the removal of the sutures, or until the bandages were stained by the approach of the secretion in those cases in which it occurred.

Volkmann has employed thymol freely, and with most satisfactory results, in a one per cent. solution for the constant irrigation of wounds, where carbolic acid could not have been employed on account of its irritant action.

Spencer Wells has used it in a series of ovariectomy operations, and recognizes its advantages over the usual antiseptic; the dressings in his cases were allowed to remain without change until the removal of the sutures was required.

It must be observed that in its employment under the Lister system, while the details required for the prevention of the irritant action of the antiseptic on the wound are dispensed with, those required for guarding against putrefaction cannot be abated in the slightest degree.

Thymol is but sparingly soluble in water, but freely so in alcohol, ether, vaseline, and most fatty substances, and in the caustic alkalis. The latter dissolve the largest amount of thymol, and permit of its ready dilution. One gramme of thymol is soluble in one thousand grammes of warm water, and Spencer Wells uses this solution for spray, irrigation, sponges, instruments, and all other surgical antiseptic purposes, while Volkmann prefers a mixture of thymol one gramme, glycerine twenty grammes, alcohol ten grammes, water one thousand

grammes. The addition of the small amount of alcohol and glycerine can have but little influence on the character of the solution. Two tenths gramme to four tenths gramme of thymol to thirty grammes of vaseline well rubbed in makes a good ointment that has been used with advantage in many skin affections in England, and is free from the disagreeable odor and irritant effects attending the use of ointments made with carbolic acid and the various products of tar, and in a more diluted form is an excellent surgical dressing. A solution of one gramme caustic soda or potash in six grammes of water takes up three grammes of thymol, and forms a convenient basis for dilution to any extent.

The present cost of thymol in this country is unreasonably high and unsettled, ranging from one dollar to two dollars per ounce, according to the demand and the conscience of the druggist. In England it costs about four times as much as carbolic acid, weight for weight, and can be furnished at the same relative cost here. At first glance its use appears to be far more expensive than that of carbolic acid, but as a solution of the latter requires one part to forty or one to twenty, while a thymol solution of one to one thousand is equally efficacious, and as the absence of discharge under the thymol dressings requires their less frequent renewal, the difference in cost is decidedly in favor of the thymol.

From the preceding observations it becomes apparent that while thymol is fully as efficient in its antiseptic action as carbolic acid it has the great advantage of causing a much less amount of irritation, and consequently of interfering less with the rapidity of healing in wounds protected by it.

A CASE OF STRANGULATED HERNIA, WITH REMARKS.¹

BY C. N. CHAMBERLAIN, M. D., LAWRENCE, MASS.

THE subject of the following history was a tall and rather spare-built man, a farmer, about sixty years of age. Twenty years ago a small hernial tumor appeared in the right inguinal region, for which he wore a truss during the succeeding three or four years. At the end of this period he discarded the truss, and the tumor became fixed in the inguinal canal, never thereafter being wholly reducible. In June, 1875, he suffered an attack of acute inflammation in the tumor, which was removed by topical applications. On June 16, 1876, he was attacked in a similar way, and, obtaining no relief from the measures previously used, he called in medical aid. Five unsuccessful attempts at taxis were made during the following twenty-four hours, aided by cold applications. The last effort was made while the patient was under the in-

¹ An abstract of a paper read before the Massachusetts Medical Society, June 12, 1878, and recommended for publication in the JOURNAL.

fluence of ether, and was *prolonged nearly or quite two hours*. The usual symptoms accompanying strangulated hernia were present, namely, pain, tenderness, vomiting, and debility. These symptoms increased during the two following days, no further attempts at reduction, meanwhile, being made.

The writer first saw the case at seven A. M., June 20th, nearly four days after the advent of the first signs of strangulation. The patient presented the following symptoms: great physical prostration, mental hebetude, hiccough, regurgitation of yellow offensive fluid; skin cold and dark, covered with a clammy perspiration; pulse rapid, feeble, fluttering, and intermittent, the heart's pulsations irregular and tumultuous, showing signs of valvular disease.

The tumor was of the size of a hen's egg, somewhat flattened, slightly resonant, not very painful or tender, the skin covering it being rather dark, but showing no marked hyperæmia. On the whole, the aspect of the case could hardly have been more unpromising.

In view of the fact that the tumor had been for a long time irreducible, and, besides, that repeated and prolonged efforts at reduction had been made by the attending physicians, while nearly four days had elapsed since the onset of the symptoms, further efforts by taxis were deemed inadmissible. Even herniotomy afforded feeble hope of rescuing the patient from his perilous condition; but, being the only resource remaining, it was speedily resorted to, although with little expectation that the patient would survive the operation. If he should pass this ordeal successfully, recovery with a permanent artificial anus offered the most favorable result that could be reasonably anticipated.

The operation was performed under ether. On opening the sac to examine into the condition of the bowel, an ounce or more of dark-colored serum flowed out. The involved portion of ileum was of a dark-purple color, infiltrated with blood. It proved to be an oblique hernia, the two rings being nearly opposite each other, as often occurs in old cases of oblique irreducible hernia. The chief stricture was at the external ring, and was divided, as was also a slighter one at the internal ring. Adhesions existed which were, for the most part, left untouched, as the viability of the bowel was thought to be doubtful.

The patient rallied as well as could be expected, and presented on the following day a favorable appearance. Henceforward the *general* symptoms improved pretty steadily until his recovery. The progress of the local changes only are herein recorded. Three days after the operation the coil of intestine was found to be distended with gas, and gangrenous. On the fifth day the whole of it appeared to be in a state of sphacelation. On the seventh and ninth days considerable portions of it were removed with scissors, all the fæcal matters being discharged through the opening. It was estimated that between four and five inches of the

intestine, apparently in its entire circumference, were destroyed. An oval pad was applied over the wound to control and regulate the outflow of the fecal discharges. On the twenty-third day it was observed that the discharge through the wound was diminishing, and that the contents of the bowel had resumed their natural course through the lower intestine, to be discharged per anum. The wound rapidly cicatrized, and on the thirty-first day had become reduced to a fistulous opening, which was practically closed on the fortieth day. On the fifty-sixth day there was hardly any appearance of a tumor. From that time he has had very little trouble at the seat of the disease, and he performs the lighter operations of farming without difficulty.

The above case is reported in order to place on record a history which, although by no means unique in its character, must be regarded as quite remarkable when we consider the success which attended the efforts of nature for the repair of an accident involving the destruction of so large an amount of the intestinal tube.

The mechanism by which it is possible that the cure in the above-related case may have been effected is shown in a case reported by Scarpa, and quoted by Teale in his Treatise on Hernia, page 164. In this instance "a long loop of gangrenous ileum" was cut away after the stricture had been divided. The feces escaped from the wound until the fourteenth day, when they began to pass in part by the anus. An accident interfered with the steady progress of the case, but notwithstanding this the wound was practically closed on the forty-second day. Nine months later "he was attacked with severe pain in the bowels, after having eaten immoderately of cray-fish, imperfectly cleansed of their shells, and in a short time died." A post-mortem examination showed that "*the two divided ends of the intestine had united at an acute angle opposite the abdominal ring.*" The angle of union was firm and compact, and still more so from the omentum being placed over the part and adherent to it." The peritonæum, which had previously formed the hernial sac, had "become adherent to the sound portion of the intestinal tube, and extended like a *membranous funnel* from the cavity of the abdomen through the aponeurotic ring into the fistulous tube which opened externally at the groin." "Therefore it was not difficult to comprehend that the alimentary matters had been poured from the superior orifice of the intestine, first into the membranous funnel formed by the remains of the neck of the hernial sac, then from this, by a half circle, into the inferior orifice of the intestine."

Scarpa had met with a similar arrangement of the parts in a case of gangrenous femoral hernia. Mr. Travers has also shown by experiment that "the peritoneal surface is essential to the restoration of an intestine, of which a part has been disorganized by stricture."

Instances of the spontaneous cure of gangrenous hernia, where only

a small portion of the wall of the intestine has sloughed, are not so rare as to give occasion for comment. But when an entire section of the tube, or even a very large area of its walls, has been separated, while the continuity of the intestinal canal has been restored and the external wound closed, the event may be regarded as of sufficient interest to justify its preservation in the annals of surgery as an illustration of the recuperative powers of nature. Strangulated hernia is confessedly a grave accident, and when we consider the frequency of its occurrence and its fatality, it may properly be regarded as one of the most important accidents which appeal to the surgeon for relief. The ratio of mortality which follows it, notwithstanding all the resources which art has employed to reduce it, still remains exceptionally large, and renders it justly one of the opprobria of surgery.

A hundred years ago Mr. Hey lost three cases out of five upon which he operated, and Dr. Hamilton makes the humiliating confession that "the mortality remains about the same at the present time." An examination of the results of foreign surgery shows that the ratio of mortality after herniotomy has varied but little from fifty per cent. Such a mortality as this is, in the language of Professor Gross, "truly appalling," and its causes should engage the serious attention of all thoughtful surgeons. It may be asserted as a general fact that it cannot to any great extent be attributable to unforeseen accidents attending or following the operation. Fatal hæmorrhage is extremely rare, and death from "shock" is, latterly at least, almost unknown. Pyæmia and erysipelas are not of frequent occurrence, nor is peritonitis, resulting exclusively from the operation. Neither can a large number of deaths be attributed to a want of skill in the operators, for the great ratio of fatality is not confined to surgeons of limited experience and dexterity. While each of these causes may be held responsible for a small proportion of the deaths, it may be safely affirmed that all of them combined have contributed less to the aggregate mortality than have these two generally coincident causes, namely, *the improper use of the taxis, and the undue postponement of the operation.* The concurrent testimony of many of our best teachers confirms this statement, while some of them have employed the most emphatic language in condemnation of this culpable practice. Although the truth of this affirmation is generally admitted, the want of a *practical* recognition of it is the excuse and justification for briefly adverting to it.

The limited space allotted to this abstract forbids any extended reference to approved authorities in proof of the preëminent influence of the above-mentioned causes upon the mortality of hernia. Attention is particularly directed to the emphatic utterances of Teale, Hamilton, Gross, Druitt, Bryant, Birkett, and others in reference to this important subject. Indeed, the observation and possibly the experience of

many of the members of this society can sufficiently attest the correctness of this conclusion.

The immediate ill effects which are liable to ensue from rude taxis and too great delay before operating are so obvious that simple allusion to some of the most important of them will suffice for our purpose.

(1.) Peritonitis. This may be contributive to or consequent upon the strangulation. In either case the change from simple inflammation to utter ruin of the entire structure of the bowel proceeds with so great rapidity that early liberation can alone prevent disastrous results.

Prolonged or severe manipulation of the tumor under these circumstances cannot fail to multiply the dangers and difficulties which already surround the case, and leads not infrequently to complete sphacelation of the entire coil of the intestine.

(2.) Reduction "*en masse*" sometimes results from too forcible taxis by incautious operators, especially when the patients are under the influence of ether. Dupuytren saw eight or ten cases, Luke five cases, while Teale reports twenty-two cases.

(3.) Rupture of the bowel, whenever its structure has been weakened by inflammation or a protracted interruption of its circulation, is peculiarly liable to follow rude efforts at taxis.

(4.) Other accidents, fortunately more rare, sometimes occur, namely, tearing off the whole ring and reducing it with the herniated bowel, the stricture unrelieved, or the folding the intestine upon itself and forcing it into an artificial pocket.

(5.) Finally, fatal exhaustion of the vital powers of the patient is a not infrequent result of prolonged and severe taxis, with its accompaniments of pain and delay.

With such a formidable list of possible injuries and dangers confronting the surgeon it behooves him to move upon a serious case of strangulated hernia with the utmost caution, yet not with timidity, and with a thorough knowledge of the ground he is to tread. Hence the importance of establishing a correct diagnosis in regard to the nature of the hernia and the state of its structures cannot be insisted upon with too much emphasis. . . .

In the employment of taxis the wisdom of making available all the conditions, preliminary and adjuvant, which experience has shown to be useful is sufficiently obvious. Of these, first in importance is *etherization*. An invaluable means of removing excessive muscular tension, it may become a dangerous ally in the hands of an over-zealous operator.

Aspiration is another valuable aid in those cases in which the coil of intestine is distended with air or fluid, or where there is an obstructive amount of serum in the sac. In France this procedure has yielded remarkable results. It is scarcely needful to refer to the value of opium,

general and local baths, and the application of the ice-bag as methods of preparation of the patient for the use of taxis.

Quality of Taxis. While no definite rule in regard to the *degree of force* which may be permissible can be laid down, there can be no doubt concerning the wisdom of the following precept, namely, that it should be *gentle, uniform, steady, and persistent*. . . .

Duration of Taxis. The practice of modern surgeons is inclined to a much briefer limitation than was formerly permitted. The "prolonged taxis" of the French writers authorized a continuous manipulation for thirty and even sixty minutes. Recent English and American surgeons, in view of the disastrous results which have followed "*prolonged taxis*," are disposed to limit it to not more than fifteen minutes, while Bryant deems even this length of time unsafe if the patient is under chloroform. It is manifest that no absolute rule can be established to guide the operator, and in this regard the operation must be left to the judgment of the surgeon, who, if he be wise, will promptly cease his manipulations "after reasonable hope of its success has passed, and when its maintenance must inevitably tend to serious aggravation of the crescent inflammatory action." (Miller.)

Should the early attempts to reduce the hernia by taxis prove futile, it should be adopted as a regular canon of practice to proceed at once to the operation of herniotomy, unless there exist reasons of the most unequivocal character for expecting benefit and additional safety to the patient as the consequences of delay.

The indefinite postponing of the operation, with a vague hope that something will "turn up" to relieve the patient and the surgeon from an unfortunate predicament, with no intelligent and well-grounded reasons for such delay, and more especially if, during the interval, frequent, fitful, and fruitless manipulations of the tumor are made, is a most pernicious practice which is fraught with evil, and only evil.

It may be safely affirmed with regard to the operation of herniotomy that it is not essentially one of great hazard to the patient. Were it habitually resorted to in the early stage of the strangulation, while all the tissues are in a viable condition and the vitality of the patient unimpaired, the mortality following the operation would doubtless be very small. It is a mistake, and often a fatal one, to look upon it as the last resource, to be reluctantly employed only after all known expedients which may have proved effective in other and different conditions have been exhausted in the treatment of the case, while the strangulation, wherein the danger exists, is allowed to continue, unobstructed, its mischievous force.

We close with the remark that it is not assumed that this paper contains any novel or unrecognized views, or that it has any other *raison d'être* than as a feeble protest against a practice confessedly too com-

mon, and as an attempt to encourage, wherever it may be needed, a more attentive observation of the results of clinical experience, which teach the early recourse to operative interference in all cases where taxis, judiciously applied, has not resulted in prompt relief to the patient.

RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.¹

BY R. H. FITZ, M. D.

PATHOLOGICAL ANATOMY.

Fatty Degeneration of the Liver. — In examining a number of human livers, Von Platen² observed that granules of fat were present between the hepatic cells, and he endeavored to learn where this fat was and whether such a distribution was connected with fatty infiltration or fatty degeneration. Iodoform was used as a means of producing a fatty degeneration of the liver, and the examination of the organ from four to six hours after the poisoning had taken place showed that the familiar stellate corpuscles lying between the capillaries and liver cells were filled with fat granules. When, however, the process was more advanced, when more fat was present in the liver, although in certain cases these stellate corpuscles at the periphery of the lobules were filled with fat, yet in most instances they were no longer evident. The peripheral liver cells were usually free from fat, then a general, diffuse opacity was apparent, which gradually became less, being replaced by collections of large and small fat drops. Eventually only large drops were present, though occasionally a band of finely granular fat was seen to extend over a liver cell. When the atrophied livers of animals who had hungered for some time were examined, it was evident that there were many fat drops between, not within, the liver cells. These either formed long lines parallel with the bundles of hepatic cells or ran over the latter. Other lines of fat granules were met with which ran over the liver cells, but showed no connection with lines outside them.

In the examination of atrophied specimens it became evident that many fat granules, which apparently belonged to the liver cells, formed agglomerations, separated from each other by intervening spaces which were traversed by numerous connecting threads of fat granules. The general appearance was that of a net-work formed by these lines, the granules being more abundant at the points of connection.

The appearances of beginning fatty degeneration thus suggested that a large part of the granular fat did not belong to the liver cells, but to

¹ Concluded from page 656.

² Virchow's Archiv, lxxiv. 268.

cells within the intercellular spaces. When, however, the fat drops were of the size of red blood-corpuscles, the relation of the parts became obscured by the swelling which took place. It could not, then, be stated that all the fat was accumulated in the intercellular tissue, and in the examination of individual cells it was impossible to determine whether portions of the projections of the stellate corpuscles might not be adherent.

In fatty infiltration of the liver resulting from feeding with oil, the stellate corpuscles were alone or predominantly affected, and the microscopical appearances were like those of beginning degeneration.

Ponfick has shown that these stellate corpuscles receive insoluble pigment introduced into the circulating blood, and they also take in pigment which has been formed in the body. Von Platen conceives that in fatty degeneration of the liver, likewise, these cells absorb material transuded from the blood, which material is either fat or one capable of being subsequently converted into fat. It seemed unlikely that the protoplasm of the cells should have become converted into fat at the very outset. The early general diffusion of the process opposed this idea, and there appeared no reason for a nutritive disturbance in these corpuscles rather than in the liver cells. The enlargement of the organ and its increase in weight without evident increase in the quantity of blood favor the view of the reception of material from without.

Origin of Renal Casts and Parenchymatous Inflammation. — In order to determine the relation between parenchymatous and interstitial inflammation of the kidney, and to prove that there is a primary, independent parenchymatous inflammation, Aufrecht¹ made a series of experiments upon rabbits. One ureter was tied, it being thought that a parenchymatous inflammation would first take place, being followed later by a diffuse interstitial inflammation. The experiments showed that these views were correct, and rendered it possible to obtain some accurate knowledge concerning the origin of fibrinous casts.

That the latter might form it was found necessary that the epithelial lining of the tubules should be intact. The cells might be opaque and their outline indistinct; still, as such, they were not found to become a part of the casts. The latter could not arise from an exudation from the blood, as they were found at a time when no alterations could be detected in the interstitial tissue or in the blood-vessels. It was also thought impossible that fluid should escape from the blood into the renal tubules, owing to the pressure within the ureters and pelvis, which was sufficient to cause the latter to be considerably dilated. Finally, when disease of the interstitial tissue took place casts were not found.

It was consequently inferred that fibrinous casts are formed from a secretion produced by the inflamed epithelium, which escapes as large

¹ Centralblatt für die medicinischen Wissenschaften, 1878, xix. 33.

round drops, and afterwards coalesces into a shape corresponding with that of the uriniferous tubules. This inference was based upon the presence of casts composed of irregular pieces separated by fine bright lines, and the occurrence of clear globular masses resembling the pale casts and projecting from epithelial cells.

The presence of urinary casts in connection with simultaneous disease of the epithelium, and the absence of any trace of interstitial inflammation, is regarded as an important justification of the occurrence of a primary parenchymatous inflammation. Aufrecht considers this affection as of a regenerative character, and states that he finds evidence of a regenerative parenchymatous inflammation of muscular fibre, of the nerves, and of the liver. He is further convinced that diffuse interstitial nephritis and hepatitis are always the result of a parenchymatous affection of the organs concerned.

Amyloid Kidney without Albuminuria. — In a communication to the Berlin Medical Society relating to the pathology of diseases of the kidney, Litten¹ mentioned a case of extensive amyloid degeneration of the kidneys and other organs, although for a period of three months no albumen had been found in the urine. The microscopic examination of the injected kidney showed that the coloring matter had not entered the vessels of the Malpighian bodies, owing to their extreme degeneration, while the interstitial capillaries, the afferent arteries, and the vasa recta were but moderately degenerated.

He concluded that where albuminuria was present in amyloid disease of the kidney the albumen must enter the urine through the Malpighian bodies, supposing them to be permeable. He finds in the experiments of Hermann the most satisfactory explanation of this absence of albuminuria in his case. This physiologist observed that when the renal artery was temporarily ligated, albuminuria followed. According to Cohnheim, a temporary obstruction of the arterial supply of blood to a part causes changes in the vessel wall which may be considered as favoring the escape of albumen. Litten ascertained from injections that the interstitial capillaries received blood soon after ligature of the renal artery and the cutting off the supply of blood to the glomeruli.

He concluded that only in the latter is the alteration of the vessel wall previously referred to likely to take place, as oxygenated blood still flowed through the interstitial capillaries. He states that this explanation does not apply to all cases of albuminuria, since in venous obstruction the venous capillaries are chiefly concerned, and serum-albumen transudes through them.

Hypertrophied Heart and Chronic Nephritis. — The pathology of the kidneys and of the urine is considered by Senator.² He first calls at-

¹ Berliner klinische Wochenschrift, 1878, xxx. 452.

² Virchow's Archiv, lxxiii. 1 and 313.

tention to the fact that chronic interstitial nephritis is not a sharply defined affection, and he refers to the difficulties in the way of making an exact differential diagnosis. The slower the progress, the less pronounced are the symptoms of a parenchymatous affection. It is also possible that parenchymatous processes may lead to interstitial changes, and the latter may gradually advance while the former retrograde. The necessary result is that during the course of a chronic parenchymatous nephritis an interval may take place during which the symptoms are more or less like those of a primary indurated kidney, while at the autopsy both parenchymatous and interstitial changes are found. There are also numerous transitional forms which during a certain period do not correspond with the type of the one or of the other process, but present single features of both and lack others, and are to be diagnosed as cases of chronic diffuse nephritis.

The relation of hypertrophy of the heart to the nephritis is considered at length. In chronic interstitial nephritis the cardiac hypertrophy predominates over the dilatation, while the reverse is the case in chronic parenchymatous nephritis. A moderate or slight hypertrophy without dilatation is not to be directly proven, but only suspected; and a simple hypertrophy of the heart may exist at the beginning of a chronic interstitial nephritis, and may be present for some time during its course, without being made evident by physical signs. It is therefore not to be determined clinically when in such cases the cardiac hypertrophy begins, even that it may not have existed at the time when symptoms of a disturbed renal function were first manifested.

In explaining the origin of cardiac hypertrophy in connection with chronic nephritis, the effect of an abnormal composition of the blood is considered.

In chronic interstitial nephritis there is no retention of urinary constituents in the blood, while the hypertrophy is frequent and either simple or concentric. In chronic parenchymatous nephritis there is an altered composition of the blood, but cardiac hypertrophy is rarely met with, and when present is of the eccentric variety. In chronic interstitial nephritis a thickening of the small vessels and cardiac hypertrophy are very common, while in chronic parenchymatous nephritis the former is almost universally absent, whether the heart is hypertrophied or not. It therefore follows that the cardiac hypertrophies in the different forms of renal inflammation are of unlike nature and have different causes.

Those taking place in chronic parenchymatous nephritis form a minority, and are to be regarded as secondary and as due to obstruction to the emptying of the left ventricle. This obstruction must be owing to an increased aortic resistance, as all other evident mechanical causes for obstruction may be excluded.

The cause of this increased resistance is to be sought for either in an extensive affection of the remote branches producing obstruction, or in an alteration of the composition of the blood caused by the renal disease. Evidence of the former has never been found, while with reference to the latter it is known that when the blood is loaded with urea the aortic pressure is increased. Other chronic affections of the urinary apparatus which give rise to similar conditions would be likely to occasion a cardiac hypertrophy, such as may be found in connection with the disturbances due to urinary calculi and in individuals with but one kidney.

In chronic interstitial nephritis the cardiac hypertrophy is apparently simple or concentric. It is possible that dilatation is present, though apparently absent from the excessive increase in thickness of the wall of the heart, which may become all the more striking from the existence of post-mortem rigidity. If dilatation were present, an increased aortic resistance is essential for the hypertrophy, and this is most probably present. This increased tension must be due to a more or less extensive thickening of the walls of the smallest vessels. Such has actually been found, though doubts exist as to its nature, and until its nature has been discovered its cause must be obscure.

If the hypertrophy of the heart is simple from the outset, it is primary, and must be due to increased function and nutrition. A source for such might be found in an abnormal composition of the blood. Simple hypertrophy can produce no increase in the blood pressure, but as the latter is present in chronic interstitial nephritis, there must be in addition to the hypertrophy another element — the increased thickening of the arterial walls — as an explanation for the increased blood pressure.

In conclusion, whether the hypertrophy is apparently or really simple, the thickening of the arterial branches is of essential and decided importance for the occurrence of the increased aortic tension in cirrhosis of the kidneys. In the one case the thickening acts as a cause; in the other it follows as the effect or coördinate action of a third factor, — the abnormal composition of the blood. The renal affection cannot be regarded as the cause of the increased blood-pressure and of the alteration in the circulatory system, but only as the result or accompaniment of them.

THE AMERICAN PUBLIC HEALTH ASSOCIATION AT RICHMOND.

THE YELLOW FEVER CONFERENCE.

At the sixth annual meeting of the American Public Health Association in Mozart Hall, on the evening of November 19th, there were, beside a large popular audience, somewhat over a hundred members present, representing state and city boards of health from Wisconsin to Massachusetts and Louisiana, the United States army, navy, and marine hospital service, as well as quarantine officers, engineers, and physicians occupying prominent places in colleges, medical societies, and other scientific bodies. The welcome address by Governor Holliday was warm, and full of enthusiasm and a patriotic feeling which rose far above any sectional limitations. After a few very well-put introductory remarks by Dr. Cabell, Dr. Elisha Harris, of New York, as president of the association, read the address of the evening, which, it is needless to say, was filled with elaborately prepared statements, propositions, and conclusions, although unfortunately not so effectively delivered as to command that attention of the audience which the subject deserved. Surgeon-General Woodworth, of the marine hospital service, then made a few remarks in explanation of the origin of the commission to investigate, under his direction, the recent epidemic of yellow fever. The first donation of money was made by Miss Thompson, of New York; the rest has been subscribed by merchants of New York. The commission was organized October 1st, and consists of Dr. E. Lloyd Howard, of Baltimore, president of the Maryland State Board of Health and professor of chemistry in Baltimore; Professor S. M. Bemiss, editor of the *New Orleans Medical and Surgical Journal*; and Dr. Jerome Cochran, quarantine officer at Mobile. Colonel Hardee, a civil engineer in New Orleans, was later added to the commission. They now report that the fever visited eighty cities and villages, attacking one hundred thousand people, with a loss of twenty thousand lives.

Hon. Dr. Steiner's few words, giving a clear review of the work and duty of the association, were followed by the welcome announcement that the real labors of the session would at last begin on the following morning in the presentation and discussion of the report of the yellow fever commission, and of papers on the same subject, to be read by those who have had experience during the last epidemic.

Some of the members would have been glad to hear less of the "bloody scythe" and the "great tragedy of the exotic enemy;" many thought more of exact, scientific work than of appealing for the prayers of the people; and not a few were so exacting as to want a better reason for the exemption of Nashville than that it was spared by a kind Providence.

The second session began November 20th, nominally at ten o'clock, but actually much later, as the executive committee were overburdened with work in making their arrangements. Many of the papers to be read, indeed, were not sent in until the time of meeting, instead of six weeks before, as is required by the constitution, so that they could not be properly sifted before being

placed upon the daily programme; but, thanks to an admirable sub-committee of Drs. Cabell, Turner, and C. B. White, that was not so fatal a source of embarrassment as might naturally have been expected. The day was occupied with reports in regard to individual towns examined by the commission, and with a general report by their chairman. The method of inquiry was to visit as many places as possible in the short time of twenty days, each one taking an independent route, and rarely spending more than one day in any given place. In this way a number of interesting accounts were prepared, but nothing possessing the interest or value of a minute scientific inquiry. The points for investigation were not the same in the different places, and the descriptions of the invasion of yellow fever were simply short *currente calamo* sketches, prepared, for the most part, in the hurry of working in the day-time and traveling at night by three most industrious men, assisted by the local health boards and physicians. Of course, little has thus far been added to our knowledge of the disease.

So far as can be determined, it appears that in no place where yellow fever became epidemic this year was there an effectual quarantine; in some places where there was a rigid quarantine, the disease failed to appear. There is evidently abundant evidence that, in time of epidemic, all means of transporting the infecting material should be prevented; it certainly is to be hoped that the excellent opportunity now present will be utilized to settle all possible dispute in that matter. New Orleans was evidently the focus from which yellow fever was distributed in the United States, not in that "wave-like" manner so often spoken of in connection with epidemics, but very irregularly, first far, then near, just as the steamboats and railroads had stopping-places for depositing the clothing or goods that had been exposed to infection. The first cases imported appeared in New Orleans in the latter part of May; the first case originating in New Orleans was said to have been observed in July, — a fact which, if true, apparently verifies Pettenkofer's theory that some time is required to develop the specific poison in every epidemic locality. Unfortunately, in nearly if not quite all the towns, either the first cases of yellow fever were not recognized, or there was an attempt to conceal their true character. Indeed, we have no satisfactory explanation of the exact way in which the fever appeared in any one of the places visited. In all there is the same story of filth! filth! filth! In one case an exposed cemetery was the source of a disgusting stink; in all the drainage is very bad. The common privy, as a rule, is used, often moved about from place to place, as one site after another gets filth-laden, and the excrement is deposited either on the surface of the ground or in shallow, loose-walled pits which are emptied only at long intervals. The universal contamination of the soil of course causes a pollution of the wells, and there is abundant evidence that filth passes through the ordinary brick wall in the ground, although it is commonly relied upon to protect cistern-stored drinking-water. A few towns apparently pleased themselves with the idea that they were doing really efficient work in cleaning up the surface of the ground, and in removing those grosser forms of filth which were obvious to the eye and the nose. But of course that was a comparatively small matter, even if important to a great degree, for filth which has been saturating the soil for years

cannot be got out of the way in a few months. The verdict of the health officers and physicians is apparently very decided against the wisdom of placing much reliance upon any of the so-called disinfectants.

The epidemic has been especially severe and fatal in some of the smaller towns, some of which were evidently invaded through the means of the railroads, and in them the opportunities for a careful investigation are most excellent. Indeed, the material is so abundant that it will be a lasting disgrace to us if we do not add something of permanent value to our knowledge of a disease which, in some cases this year, has attacked nearly every unprotected person remaining within the area invaded by it. Neither the country nor the American Public Health Association can be congratulated upon the methods of inquiry which have been adopted in investigating this year's epidemic, nor upon the results which have been got. That our government is utterly unprovided with the means of carefully examining *all* epidemics, and of making some sort of reasonable effort to prevent an outbreak so disgraceful to modern sanitary science as this which has just occurred, should very seriously impress every thoughtful man.

The work of the executive committee for the remaining days was very much facilitated by the appointment of seven committees to act in concert with them, and to whom were referred the duties of considering the report of the commission, Dr. Bemiss's papers, Dr. Cochran's papers, Dr. Howard's papers, Colonel Hardee's report, Dr. Harris's address, and the final resolutions of the association. The deliberations of these committees will probably determine to a great extent the character of the resolutions adopted by the association, and upon them will depend, to a great extent, the action to be recommended to Congress. It is certainly to be hoped that the system of investigation to complete the work of the commission and the thoroughness of their work will be such as to bring the largest results, and to settle many questions which are now to many people matters of opinion and subjects for dispute.

(To be concluded.)

THE BOSTON MEDICAL LIBRARY ASSOCIATION.

THIS association, incorporated under the laws of the State, has for three years maintained a reading-room well stocked with current medical periodicals, and has been diligently collecting a medical library of reference. Few, even of those familiar with its history, have realized that the collection of books made by this association already numbers about ten thousand volumes, thus rendering it one of the largest medical libraries in the country. It is exceeded only by the National Medical Library in Washington (forty-two thousand volumes), the College of Physicians (twenty thousand five hundred) and the Pennsylvania Hospital (thirteen thousand) in Philadelphia; possibly by the Public Library of Boston (ten thousand one hundred and thirty-three) and the New York Hospital (ten thousand). This surprising result, achieved without the aid of a fund, but merely by the fees of membership and occasional voluntary subscriptions, has fully demonstrated the fact that the association filled a want urgently felt by the medical community. As the accumulation

of books was found last spring to have far exceeded the capacity of the rooms then occupied, the association appealed to the liberality of the profession and the public, and obtained a large sum of money. With this it has purchased the house No. 19 Boylston Place, and completely remodeled it so as to provide several pleasant reading-rooms on the second and third stories, and upon the ground-floor a hall, sixty by twenty-seven feet, which the association hopes will be rented for the use of all the medical societies of the city. The building is intended to be the headquarters of all the medical interests of the State, to be the daily resort of its members in the city, and of all physicians from a distance who may be visiting Boston. We understand that a free circulating library is to be at once instituted from the duplicates now on hand, the use of which may ultimately be extended to every physician in the State. Aid will also be given to the members of the profession in any of the larger towns of the State who manifest a desire to form a branch library. A registry for nurses is to be established at the building, whereby any one seeking a nurse may learn by a glance at the register which nurses are disengaged.

In another column will be found the announcement of the exercises to take place at the formal dedication of the new building and hall. An address from Dr. O. W. Holmes, the president of the association, will insure a good attendance, while the names of the other participants are a guarantee that the interest of the occasion will not be allowed to flag. A loan collection of over forty portraits of deceased physicians will be exhibited in the hall on that evening, and will remain on free exhibition to the profession and the public during the rest of the week.

AN OUTRAGEOUS SUIT FOR MALPRACTICE.

WE publish in our present number an abstract of the evidence in a recent trial for malpractice in the adjoining city of Cambridge, in which the jury found the defendant liable in the sum of \$4916.67. We feel it our duty to draw especial attention to this case as one of the most flagrant and successful among those too frequent attempts to impose upon a benevolent and conscientious profession.

We are glad to hear that there will probably be a new trial, for from all we have been able to learn we believe there is little doubt that the plaintiff hardly merits our sympathies; and although the charge of the judge was fair and impartial, the verdict returned by the jury was, in our opinion, nothing short of plundering under the forms of law. In this opinion we believe all candid and competent readers will concur.

We have been pleased to see a very concise and pertinent statement of the important points in the case in a communication to one of the local papers.

It is often difficult for medical men themselves to judge of the wisdom of the treatment of a case which they have not seen, and it must be much more so for the laity. In the present instance an emotional jury did not even require positive proof of the existence of relaxation of the pelvic ligaments; but had such proof been forthcoming we should still be very far from having evidence of an absence of reasonable or ordinary care or skill.

Physicians and corporations are too often regarded as fair game by the im-

pecunious clients of desperate lawyers. This method of gaining a support must be classed with the more recent, though no more unrighteous, devices with which the public has of late become so familiar.

The strength of corporations may be regarded as sufficient protection to them, but the physician, who may at any time be brought to the verge of ruin, requires greater security against imposition than the State has yet seen fit to offer him. This is the more evident when we remember that it is generally the honorable, conscientious, educated practitioner who is the victim of these attempts, and with whom the law is the most exacting.

MEDORA E. WHITE vs. HIRAM L. CHASE.

THIS was an action to recover ten thousand dollars as damages for alleged neglect on the part of the attending physician, by which the plaintiff suffered from relaxation of the pelvic ligaments.

At the trial, which took place at the supreme judicial court in East Cambridge, Endicott judge, the plaintiff testified that she was taken in labor on the morning of the 14th of May, 1875. There were with her her mother-in-law, her aunt, and another woman. As she grew very sick they became alarmed, and about four P. M. sent for a physician. That Dr. Chase came, gave her ether, and delivered her with instruments. That the doctor visited her the three following days, and afterwards two or three times a week for two months. That she told him her bones moved when she turned in bed, but that he paid no attention to her complaints, saying these pains were common, and would pass off as she gained her strength. That her aunt left on the fifth day; in what capacity she acted, was unable to say; did n't know whether she was a midwife or not. Similar statements were also made by the mother and the other woman, who also swore that she went for Dr. Chase on the 12th or 14th day of July, 1875; that when he visited her at that time she heard Mrs. White complain of her bones moving.

The plaintiff also testified that she was and always had been in good health previous to her confinement. That she went to Bangor in August, 1875, staying four weeks. That in September she called on Dr. Wyman, who told her what he thought might be the trouble, but would give no opinion without an examination; that she never made any arrangement with him for that purpose. That the last of October she was attended by Dr. Webber, who advised her to wear a bandage and keep quiet. That in November she taught as a substitute in school (going up two flights of stairs twice a day), against Dr. Webber's advice.

In the summer of 1876 she called on Dr. Chase and stated her case; that soon after she wrote him a note, and as he paid no attention she again called on him, when he shut the door in her face. On her first visit she rode in the cars; on her second visit she pushed her baby in its carriage to and from his house. She also testified that she did not use a crutch until June, 1877. That seven weeks before this trial she had been delivered of another child.

Dr. Chase's bill was introduced in court amounting to twenty-five dollars.¹

¹ The fee of the physicians of Cambridge is twenty dollars for an obstetric case, with four subsequent visits; two dollars for ordinary visits.

The defendant stated that he was a graduate of the Harvard Medical School, and had been in practice thirty-two years. That he was called to the woman on the afternoon of the 14th of May, 1875; found her under the care of a midwife, who said the child was coming wrong. The woman was very much exhausted, her condition being such that immediate delivery was imperative; administered ether, applied forceps, and delivered her without the slightest injury to the mother or child. Visited her on the 15th, 16th, 17th, 19th, and 22d; as there were no untoward symptoms, dismissed the case.

Was called on the 2d of July; wished to know if it was advisable to go into the country, as she did not gain strength as she desired; complained of pain in the hypogastric and sacral regions, and of leucorrhœa. Advised her going. Saw her again on the 4th, when she said she felt better; on the 5th carried her some medicine to take away, when she said she was going the next day. These dates the doctor swore to from his book of original entry, — his visiting list.

He also swore that during his attendance she made only the usual complaints of women after parturition, and never, at any time, spoke of the movement of the bones; at his visit in July she walked upright, but slowly, as a weak person would.

On the 31st of July, 1875, the husband called and paid his bill; made no complaint at that time, and nothing was heard from the woman until June, 1876, when she called, saying "that she had relaxation of the hip-joints; that she had consulted three of the best physicians of Cambridge, who all said it was the fault of the attending physician." Refused to give their names. "That something had got to be done about it, or a suit would be commenced; that her husband had a friend who was willing to give him money for that purpose." A few days after the husband called, and was told that their demand for money would not be acceded to; that if a suit were commenced it would be defended; that he would not be bought off.

(A suit was commenced in April, 1877. At the October term of the court, no application for a jury trial having been made, the case came before the judge, when the plaintiff became nonsuit. Another suit was, however, commenced in February, 1878, in order that it might be brought before a jury; these last circumstances were not allowed to be made known in court.)

Dr. A. C. Webber, called by the plaintiff, testified that he attended the woman the last of October, 1875; that she appeared to have relaxation of the pelvic ligaments; that in November he abandoned her case, because she refused to obey his directions; that in June, 1876, she called at his office for a certificate of her condition; that she came in limping most painfully; as he refused to give a certificate such as she desired, she went out walking in a very different manner.

Dr. Gilman Kimball, of Lowell, called by the plaintiff, testified that he could discover no mobility of the pelvis whatever.

Dr. H. G. Clark, of Boston, called by plaintiff, did discover mobility, and thought the woman would never be any better.

Dr. Stephen W. Driver of Cambridge, called by defense, testified that he had had two cases of this lesion; one recovered, the other did not. That he was called to see the child of the plaintiff in August, 1875. After prescribing

for the child the woman consulted him about herself, saying that she had pain in her back and lower part of her bowels; that he had no suspicion from her complaints or from her manner of walking that she had relaxation of the pelvic ligaments; thought she might have subinvolution; proposed an examination, which she refused. Also testified that he had frequently seen her on the street, walking and pushing her baby carriage; that when she thought she was not under observation she walked as well as any one.

Dr. Morrill Wyman: Plaintiff called at his office, saying she had relaxation of the pelvic ligaments, and wished an opinion. She was told that a careful examination at her house would be required before any satisfactory opinion could be given; if the trouble was what she supposed, she should attend to it at once. She made no arrangement for such an examination, no opinion was given, and she went her way. Have seen one case of inflammation of the posterior joining of the pelvis on the left side, attended by great pain increased on motion, tenderness of the part, with much fever, requiring energetic treatment for its relief; it was followed by an affection of the veins of the leg on the same side. Have never seen a case of "relaxation of the pelvic ligaments," as is alleged to exist in this case. It is exceedingly rare; Dewees, one of the most distinguished practitioners of midwifery in this country, after a long practice, had seen but two decided cases. The connections of the pelvic bones are very close; they have to a certain extent the anatomical structure of joints, but practically, so far as parturition is concerned, even if any relaxation of these parts takes place during pregnancy, may be deemed immovable. They are joinings rather than joints, as the word is usually understood. Relaxation of the joinings without obvious inflammation must be difficult to detect. Trousseau, one of the most eminent physicians of Paris, had a patient under his care for another affection before confinement; after confinement he kept her in bed fifteen days, then on the sofa other fifteen days; she complained of pains in her loins and pelvis; it was more than a month before she could get round her room. Trousseau thought she had a slight inflammation of the womb, and treated her accordingly. But one day, more than two months after her confinement, he saw her attempts at walking, and thought at first she had disease of the spine; afterwards believed it to be relaxation of the pelvic joinings, but as she was fleshy he could not prove it. He treated her for the supposed relaxation, and she recovered. A second case he did not recognize at first. Scanzoni, an eminent German physician, doubts if the exact nature of the trouble can always be made out with certainty during life. Even the experts called by the plaintiff are not now agreed as to the existence of mobility of the joints in this case. It is the duty of a physician to make such examination in every case as its nature seems to him to require. In this case, as in Trousseau's, he would be very much more likely to suppose the pains and lameness were of the nature of those he so often sees during the first week of confinement than an affection of extreme rarity, a case of which he had never seen.

Dr. Wesselhoeft, of Cambridge, testified that the woman called at his office. On entering she walked in a very painful manner, rolling from side to side; asked him about relaxation of the pelvic ligaments; as she could get no satisfaction from him, became incensed, and went out walking very well, manifestly improved.

Dr. Woodbury, of Boston, said that he had attended four thousand three hundred cases of delivery; had never seen a case of relaxation of the pelvic ligaments.

The exceeding rarity of this lesion was also testified to by all the physicians. The ground taken by the plaintiff's attorney in his argument was that Dr. Chase had neglected the case in that he had made no examination, and that he had lied on the witness-stand because there was no other course for him to pursue.

The defense claimed that due and ordinary care had been used; that there was no necessity for an examination, as the symptoms complained of did not warrant it. Also, that the plaintiff had not used due care to promote her own recovery.

The charge of the judge was fair and impartial. The jury returned a verdict for the plaintiff for \$4916.67. Exceptions were taken to the verdict, as not being in accordance with the weight of testimony.

MEDICAL NOTES.

— It is reported from Munich that a case of arsenical poisoning has occurred in a man who for a long time has worn a green silk eye-shade.

NEW YORK.

— At the last meeting of the board of governors of the Woman's Hospital, the staff of visiting surgeons was increased to six, and Drs. James B. Hunter, Charles C. Lee, and Emil Noeggerath were appointed to the vacant positions. Hitherto there have been four, and the resignation of Dr. Fordyce Barker left one vacancy in that number. Dr. Noeggerath is a German gynæcologist of considerable reputation, but has never been connected with the hospital; while both Drs. Lee and Hunter have been assistant surgeons there for a number of years. Dr. Hunter, who is the editor of the *New York Medical Journal*, has been associated with Dr. Thomas, and Dr. Lee was Dr. Peaslee's assistant up to the time of the death of the latter. Dr. Hunter has appointed as his assistants the son of the late Dr. Peaslee and Dr. Clement Cleveland, a graduate of Harvard, and formerly house-surgeon at the Woman's Hospital; and Dr. Lee's assistants are to be Dr. A. A. Smith, formerly assistant to Dr. Barker, and Dr. H. T. Hanks, lecturer on obstetrics at the Dartmouth Medical School.

— Professor Thomas has just read before the Academy of Medicine a paper comprising the reports of six cases of abdominal pregnancy treated by him.

— One of the most popular courses of lectures being given this season is that by Dr. L. Duncan Bulkley, in the pathological amphitheatre of the New York Hospital. The lectures, which are both didactic and clinical in character, embracing the entire subject of diseases of the skin, as well as syphilis, will be twenty-four in number, and are free to all practitioners and medical students. The audience is mainly composed of the former class, however, and among the regular attendants may be seen such men as the venerable Prof. Alfred E. Post, and Drs. Gouverneur M. Smith and F. B. Lawson. Dr. Bulkley has just received a large number of beautiful models from Paris.

— The New York Board of Health is represented at the Sanitary Conference, in session at Richmond, by Drs. S. O. Vanderpoel, health officer and commissioner, E. G. Janeway, health commissioner, and E. H. Janes, assistant sanitary superintendent.

CHICAGO.

— The West Chicago Medical Society had under consideration at its last meeting the subject of the nucleus of the human red blood corpuscle. Dr. F. L. Wadsworth, who had been the associate of the late Professor J. W. Freer, gave a history of the studies and methods of the latter, and defended the claim that he was the discoverer of the nucleus. More than ten years ago Freer had studied blood under the microscope by means of reflected light and a dark slide, and had found a large proportion of the red discs to have an elevation in the centre which he took to be a nucleus. That the appearance was an elevation and not a depression was proven by the fact that it would cast a shadow on lateral illumination. The chances of the appearances being genuine and not misleading were enhanced by the use of reflected instead of transmitted light.

Freer never claimed that in all the red corpuscles of any specimen could the nucleus be found, but only in a part of them, the proportion differing in the blood of different individuals.

The process of Boettcher, which consisted in bleaching the corpuscles with chemicals (corrosive sublimate) and then staining with carmine, the nuclei taking more color than the body of the cell, only proved the claim of Freer. Freer had exhibited his process to several distinguished men in Europe, two of whom had acknowledged the fact in their later writings, but neither had appeared fully convinced that the "appearance" was a nucleus.

The latest apparatus Dr. Freer had used for conveying light to the field of the microscope consisted of a mirror, upon which a jet of condensed light was projected, which reflected the light down the left tube of a binocular stand. This apparatus originated with Drs. Danforth and Wadsworth.

Quite a lengthy discussion followed the remarks of Dr. Wadsworth.

LETTER FROM WASHINGTON.

Medical Matters in Washington. — National Medical Library.

MR. EDITOR, — The lovely October weather which we are now enjoying is becoming more and more bracing as the fall advances, but still too warm for comfort, and makes us look forward anxiously to a more decided change for the sake of our suffering brethren now under that fearful scourge, the yellow fever. Washington has done and is doing her share in the shape of contributions; of the seventeen volunteer nurses sent down by her six returned, ten were taken with the fever, and five died at their posts. Much comment has been made in the newspapers upon statements and counter-statements respecting the conduct of these medical men and nurses, and the reports which they gave of the condition of affairs in some of the stricken cities. We have even had them portrayed in one of the illustrated weeklies as indulging in the

wildest of orgies. The profession here are very much mortified in consequence, and while the movement was one in which they did not participate, and the selection can in no way be credited to them, as of the two medical men who were of the party but one is at all identified with the profession here, they cannot help feeling its influence; and while they think that the statements made by these gentlemen on their return were injudicious, and undoubtedly greatly exaggerated as hearsay evidence which had grown by repetition, still they would not credit them with maliciousness and evil intent in circulating such reports, and think there must have been some foundation for their origin.

Both of our medical colleges have got their work well in hand, and have fair classes in attendance. The Georgetown Medical College has this year adopted a course of instruction which leaves the National Medical College far in the rear, and is much to be commended if adhered to and carried out to the letter. From the past working of its new faculty there is every reason to believe that it will be. This faculty will have the satisfaction of knowing that it is doing its duty thoroughly, and teaching its older sister what she too ought to do. It has extended its course to one of seven months' duration, and adopted the graded system of three years' instruction and examinations at the end of each year, with important additions in the weekly recitations, which are obligatory, and of which a record is kept, determining in part the standing of the student when he comes up for his faculty examination. But this college has entered upon an unequal contest, as the National Medical College has age, stability, and far better advantages for teaching and practical demonstration in the possession of its own building, which is well adapted to the purpose. This year the latter college has begun courses of practical instruction in physiology, inclusive of microscopical histology and of practical pathology. Prof. W. W. Johnston, in his opening address, very truly said that it was impossible in this climate to give the same continuous and extended course of instruction as in the more northern schools; it was usually too warm too commence lectures before October 1st or to continue them after May 1st of each year.

Besides the colleges, following the example of other cities, a training school for nurses has recently been established, and already lectures are being given to some dozen of that class. It is under the patronage of many of our most zealous citizens, with whom the profession has gladly coöperated, and with patience and earnestness in the cause it bids fair to be a success.

The hospitals have settled down quietly after the turmoil of investigations, to wait new events; of course, in this age, and especially in this city, they will not be left quiet for any length of time. The Freedman's Hospital investigation has resulted in the retention of the surgeon in charge, after much expression of feeling, criminations and recriminations; it has developed a curious phase, as showing how many men there were here who, to believe their credentials, were specially suited for the position in case the present incumbent should have been forced to vacate, and of these men some half dozen had precisely the same names of their professional brethren to recommend them. The Columbia Hospital has had a so-called public investigation of charges made by an irritated nurse against the surgeon in charge, resulting in his complete

exoneration; but the profession do not seem to be satisfied regarding the hospital; and very naturally, in the light of past events, with some suspicion the opinion prevails that either the advisory board are greatly to blame for allowing such charges and testimony to assume the dignity of a public investigation, — for, as made known, they were simply what come almost daily under the notice of every hospital board, — or that there is something more which was not brought out, and which was the true mainspring for their action. It would seem to necessitate them to make a full publication of the whole matter.

The abolishing of the old board of health and the substitution of a health officer has been generally acceptable to the profession; for, although the old board did much to benefit the city, and a great deal could be said in its favor, still it was no more than could be reasonably expected with such means and power as it had at its command, and its *personnel* was decidedly objectionable to a great many. The new health officer, although not the preferred choice of a majority of the profession, has entered upon the performance of his duties with a very fair prospect of giving satisfaction.

We are promised a new journal, and, as is the case with so many enterprises centring here, it is of course to be called national — *The National Medical Review*. The enterprise, it is to be hoped, will not meet the untimely fate of its predecessor, *The National Medical Journal*, which came to its end so painfully now a little over six years ago. The editor promises to conduct his journal in accordance with the ethics of the American Medical Association, and to keep free from all entangling alliances. He proposes to review such articles as may have escaped the attention which their merits demand, to be found in the medical literature of the past ten years; a rather rash promise when we consider the number of journals embraced in that period, with their lynx-eyed editors. The Medical Society of the District of Columbia has with alacrity availed itself of this opportunity to publish its transactions free of charge, responsibility, and labor, and to do this leaves its quarterly volume with one number wanting to complete the year. It is to be hoped that it will not regret the step which it has taken so precipitately, and that the journal in question will meet its expectations. The editor brings previous practical knowledge to bear upon his duties, and a satisfactory journal in this city certainly deserves support.

Two of our active practitioners — Drs. Johnson Elliot and James T. Sothoron — have been suffering from the effects of poisoned wounds, the virus of decomposing animal tissue. Dr. Elliot, whom, as one of our most prominent and successful surgeons, we could ill afford to lose, has after a severe struggle shown the vigor of his constitution by a satisfactory recovery. In the case of Dr. Sothoron, the symptoms, although not at their onset of such a virulent type, are still showing in a modified form their influence upon his system; but with a pertinacity characteristic of his nature he continues to attend a large and onerous practice.

Going into the library of the surgeon-general's office, the other day, to look up some works of reference, we could not help being struck with the thoroughness of the administration of that library, seeing spread out on the table before him, as an example, the whole of the collection of pamphlets, in bound volumes, which belonged to Claude Bernard. Here, then, was the mate-

rial utilized by that distinguished physiologist to aid him in those researches which have done so much for medicine, and with which the whole medical world is so familiar; and here is but one of the many evidences around us in the library of the work of its head, Dr. J. S. Billings, United States army, who has brought out of what was next to nothing the greatest medical library in the world. We have before us a little insignificant pamphlet, somewhat smaller than a medium duodecimo, of twenty-nine pages of print, entitled Catalogue of the Surgeon-General's Office Library, October 23, 1865. It is not necessary to review its contents further than to note that it records twenty-six American journals and society transactions, and seventeen foreign journals and society transactions as upon its shelves, — forty-three in all. Eight years' later — 1873 — are published, with the same title, three large volumes of imperial octavo, containing respectively 1193, 956, and 319 pages, a catalogue of 2468 pages in all.

What this library is to-day is best told in Dr. Billings's own words in an article published in the *Library Journal*, vol. iii., No. 3, May, 1878, — an article intended especially to interest librarians in the publication of a subject catalogue, and inserted in a journal devoted to their interests. Of what great value it is to the medical world may be fairly judged from his statements, and from the piles of letters received by him from home and foreign correspondents seeking information not attainable elsewhere.

Dr. Billings says, in the article referred to above, that the library now comprises fifty thousand volumes, which comprehends everything attainable relating to medicine. Medical periodicals, of course, claim the first notice, and for the last four years the purchases have been mainly of this character. On the shelves we find from eight thousand to nine thousand volumes of medical periodicals, or more than seventy-five per cent. of all that have ever been published. So that at the present time every important medical journal now in course of publication *in the world* is taken by the library; and, moreover, as soon as these copies are received, before they are placed to rest by the side of their fellows, their contents are carefully noted, and a complete title of each original paper is so indexed upon subject cards as to be made available within three days of their receipt to any of us who may wish the desired information. So thorough and complete is this system that the subject cards of the books, pamphlets, and periodical articles already include about four hundred thousand titles. To make this latter available to the profession generally seems now to be the great aim of Surgeon-General Barnes and such of the profession as are already alive to the project, and they are endeavoring so far to interest Congress as to induce it to pass an appropriation sufficient to cover the expense of publishing this great work. What a grand conception; and what a lightening of our labors to know throughout the country that in our neighboring library we should find a catalogue that would enable us to turn at once to references giving explicit information as to where to find all that has ever been published upon a given subject, however simple it may seem! The cost is great, but the object is grand; it would involve for the subject catalogue alone some seven volumes royal octavo of one thousand pages each, the author catalogue taking three volumes more, and for an edition of three thousand copies would cost \$120,500. Dr. Billings proposes to print two volumes a year.

The situation of the library is peculiarly interesting in its associations, the readiness of access to the books, and the politeness of the assistants in charge. The location is in the fire-proof Army Medical Museum, the old Ford's Theatre, which was the tragic scene of the assassination of Abraham Lincoln; and the visitor used to be shown, in a mysterious manner, part of a vertebral column with the bullet, as the memento of John Wilkes Booth, and which was supposed to be exhibited on the site where the president sat on that fatal evening. So transformed is the whole internal arrangement that it would be hard for even an old *habitué* of the theatre to verify any such location. The books are all out in full view, to be inspected and handled at your pleasure, and there is no envious looking through glass panes or wire screens at what you cannot reach without the aid of an assistant. The room is warm and comfortable, with every convenience for the visitor who wishes to make extensive notes, and the quiet which pervades shows a due regard for mental abstraction. Every other Saturday evening the Philosophical Society discusses here, with some of the first savants of the country, the scientific problems of the day. Just now the society is paying, by carefully prepared eulogies, its just tributes to the memory of Joseph Henry, which, it is hoped, will receive a wider circulation than the bulletin of the society can give them.

In 1868, a period almost coincident with the commencing growth of the surgeon-general's library, the American Medical Association, recognizing the great want of a national medical library, took steps, chiefly through the agency of Dr. J. M. Toner, to secure one of its own, and hopes were entertained that it would in time meet the demand; but the resources of, and the great efforts made by, the surgeon-general's office so soon overshadowed this effort that it became of but minor importance to the members of the association in their attempts to foster this, the great national medical library, and the association has ever been foremost in the past, as it is to-day, to recognize its value and assist in extending its sphere of usefulness. The circular issued by Dr. H. C. Wood, as chairman of the committee of the American Medical Association, on the library of the surgeon-general's office shows very clearly the value which the association puts upon it, and sets forth explicitly the cogent reasons why Congress should undertake the publication of the subject catalogue. One of the pleas given in this circular appeals directly to the personality of each and every constituent of congressmen, — that their own family physician in their own case may require just this information to give them medical relief. The library of the association still lives and grows, in a corner of the Smithsonian Institution, gaining some vigor in a modest way by contemplation of the strength and power of its associate, and confining itself to disseminating copies of the association's annual volume of transactions to medical journals and societies at home and abroad, receiving in return similar favors, every year increasing its proportions, until in time it too will be looked upon as worthy of some consideration. It is now of sufficient importance to warrant its being consulted to advantage by those members who have not large libraries at their disposal and who can have free access to it.

W. L.

WASHINGTON, November, 1878.

SHORT COMMUNICATIONS.

YELLOW FEVER INVESTIGATION.

ON Saturday, the 9th of November, a committee appointed by the Maryland Academy of Sciences, and approved by the Academy of Medicine and Baltimore Medical Association, consisting of Drs. J. R. Uhler, C. C. Bombaugh, and C. L. Oudesluys, waited on President Hayes with the following memorial:—

TO THE PRESIDENT:—

The undersigned, a committee appointed by the Maryland Academy of Sciences, most respectfully request you to transmit to Congress a message asking an appropriation and authority to appoint a permanent scientific and medical commission to study and report upon the nature, causes, treatment, and prevention of yellow fever and allied epidemic diseases, said commission to consist of twenty or more members chosen from the ablest chemists, physicists, microscopists, biologists, naturalists, and physicians in the country, with power to select from their own number and others workers, in order that the disease may be systematically examined from different points of view, both by acclimated members on the spot and others in the various laboratories of our country.

J. R. UHLER, M. D.,	GEORGE W. DAVIDSON,
CHARLES L. OUDESLUYS,	P. G. SAUERWEIN,
REV. JOHN M. HOLMES,	C. C. BOMBAUGH, M. D.

During the conversation that ensued the following important points were made: (1.) That the active intervention of men of trained judgment and special qualifications is essential for success. (2.) That the investigation should be commenced at once before another epidemic occurs, in order that the usual healthy conditions of the air, water, food, vegetable and animal life in the infected districts may be accurately ascertained. (3.) That the investigations should be made by a large number of specialists, in order that many new methods may be tried. (4.) That a portion of this work can only be conducted in the various large laboratories of the country; hence a number of names of men possessing a national reputation, and connected with Harvard, Yale, the universities of Michigan, New York, Pennsylvania, Maryland, Louisiana, Bellevue Medical College, Cincinnati Medical School, and the Surgeon-General's Office, were suggested for appointment. (5.) The importance of systematic efforts was discussed, and the committee left with the assurance that the memorial would be acted upon, and with the request of the president that it should be widely made known, in order that medical and scientific men may induce Congress to pass the bill.

THE METRIC SYSTEM.

MR. EDITOR,—In volume xcvi., 1877, of the JOURNAL there appeared several articles on the metric system. These were preceded by an article from the pen of Dr. A. N. Blodgett. In all the careless abbreviation of gmm. for gram and the very oldest spelling are adhered to. It is important that liability to error should not trammel the boon we are about receiving in the metric system of weights and measures. Not having seen a correction in subsequent issues of the JOURNAL, I beg a little space for that purpose.

All comparative calculations should be made from the following units. They are given on authority of the American Metric Bureau. One gram is equal to 15.43234874 grains troy. One centigram is equal to .15432 grain troy; one grain is equal to 6.47989 centigrams; one scruple is equal to 1.29598 gram; one drachm is equal to 3.88794 grams; one ounce is equal to 28.34954 grams. In measures of capacity one cubic centimeter, which is the same as one milliliter, is equal to 16.22821 minims; one liter is equal to 2.113 pints; one minim is equal to .06162 cubic centimeter; one fluid drachm is equal to 3.69727 cubic centimeters; one fluid ounce is equal to 29.31531 cubic centimeters; one pint is equal to .473 liter.

Only the gram and centigram and cubic centimeter should be used in medicine. In abbreviating write Gm. (capital G and small m) for gram; C. C. (both capitals) for cubic cen-

timeter; the centigram is not needed. By writing Gm. for gram all fear of its being mistaken for gr. or grs. is removed.

Use the decimal line instead of points. It makes error impossible, and gives shape to a prescription. A metrical prescription with the line will look similar to the following:—

	Gm.
R̄ Hydrarg. bichlor.	10
Potassii iodidi	31
Tr. cinchon. comp.	125
Aquæ	31

M.

In writing for a single article, or without the decimal line, always write the amount *before* the sign,—another guard against Gm. being mistaken for gr., which is usually written before the amount.

The spelling is that of the American Metric Bureau. Gram (omitting the final *me*) is admirable, but meter and liter for metre and litre are of doubtful propriety.

It is better and less confusing to prescribe only in grams, remembering always that Gm. used for C. C. causes a deficit of 5 per cent. A teaspoonful is 5 Gm.; a tablespoonful 20 Gm. It is hoped that the above will aid in bringing about a uniformity among metric prescribers that is very much desired.

F. MARION MURRAY, M. D.

23 NORTH 19TH STREET, PHILADELPHIA, October 19, 1878.

COMPARATIVE MORTALITY-RATES.

	Estimated Population, July 1, 1878.	Deaths during week ending Nov. 16, 1878.	Annual Death-Rates per 1000 living.		
			For the Week.	For the Year 1877.	Mean for ten Years, '68-77.
New York.	1,093,171			23.42	28.71
Philadelphia.	876,118	284	16.86	18.80	21.54
Brooklyn.	549,438	212	20.07	21.51	25.50
Chicago.	460,000	139	15.71	17.83	22.39
Boston.	375,476	176	24.37	20.10	24.34
Providence.	100,000	42	21.84	18.81	19.20
Lowell.	55,798	11	10.24	19.09	22.50
Worcester.	54,937	15	14.20	20.06	22.30
Cambridge.	53,547	17	16.50	18.69	20.83
Fall River.	53,207	29	28.35	21.35	24.96
Lynn.	35,528	9	13.18	20.42	19.67
Springfield.	33,981	6	9.19	16.02	19.77
Salem.	27,140	8	15.33	20.38	21.15

THE METRIC SYSTEM IN MEDICINE.

OLD STYLE.

℥i. or gr. i. equals
 f3i. or 3i. equals
 f3i. or 3i. equals

METRIC. Gms.

06
 4
 32

The decimal line instead of *points* makes errors impossible.

As .06 (Drug) is less than a grain, while 4. and 32. (Vehicle) are more than the drachm and ounce, there is no danger of giving too large doses of strong drugs.

C. C. used for Gms. causes an error of 5 per cent. [excess].

A teaspoon is 5 Gms.; a tablespoon, 20 Gms.

BOSTON MEDICAL LIBRARY ASSOCIATION. — The adjourned meeting of the association will be held on Tuesday, December 3d, at four P. M. Reports of the secretary, treasurer, and librarian. Election of officers.

The dedication of the new building and hall, 19 Boylston Place, will take place at eight P. M. Order of exercises: Report of the Building Committee. Address by the President, Dr. Oliver Wendell Holmes. Remarks by Dr. J. S. Billings, U. S. A., Librarian of the National Medical Library in Washington; Professor Justin Winsor, Librarian of Harvard University; Dr. George H. Lyman, President of the Massachusetts Medical Society; Charles W. Eliot, LL. D., President of Harvard University; Dr. David P. Smith, of Springfield, Vice-President of the Massachusetts Medical Society; Dr. Calvin Ellis, Dean of the Harvard Medical School; Dr. Henry I. Bowditch, Vice-President of the Medical Library Association, Ex-President of the American Medical Association.

A large loan collection of medical portraits will be exhibited in the hall at the meeting, and for the benefit of the profession, ladies, and others, throughout the rest of the week.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — The next regular meeting of the society will be held on Monday next at 36 Temple Place. Dr. Wadsworth will read a paper on Two Cases of Optic Neuritis in Children.

SUFFOLK DISTRICT MEDICAL SOCIETY. — A regular meeting will be held at 36 Temple Place, on Saturday evening, November 30th, at seven and a half o'clock. The following papers will be read: —

Dr. E. Cutter. (1.) Brief Report of the Fifty-Fifth Case of Electrolysis of Uterine Fibroid. (2.) Electrolysis of Water by Water.

Dr. E. H. Bradford. A Case of Excision of the Hip-Joint.

Dr. O. F. Wadsworth. A Case of Optico-Ciliary Neurotomy.

Supper at nine o'clock.

THE GYNÆCOLOGICAL SOCIETY OF BOSTON. — The next regular meeting of the society will be held in the parlors of the Evans House, first Thursday of December, at two o'clock, P. M. The profession are cordially invited to attend upon the opening of the doors at 2.30 o'clock.

HENRY M. FIELD, M. D., *Secretary*.

BOOKS AND PAMPHLETS RECEIVED. — Apparatus for Transfusion. Asphyxia in New-Born Children considered from a Medical and a Legal Stand-Point. (Reprints from the American Journal of Obstetrics.)

On Gastro-Elytrotomy. (Reprint from the New York Medical Journal.) By H. J. Garguies, M. D. New York. 1878.

The Local Treatment of Eczema. By Henry G. Piffard, M. D. (The Record.) New York. 1878.

Notes taken from a Lecture by Dr. Manuel Dagnino at the Medical University of Caracas, Venezuela, on the Treatment of Yellow Fever.

Transactions of the Medical Society of the State of Pennsylvania. Volume XII. Part I. Philadelphia. 1878.

Restraint in the Treatment of Insanity. By G. F. Bodington, M. D., Birmingham.

The Journal of Physiology. Vol. I. Nos 1 to 5. London and Cambridge, and 22 Bond St., New York: Macmillan & Co. 1878. (For sale by A. Williams & Co.)

A Manual of Prescription Writing. By Matthew D. Mann, A. M., M. D. New York: G. P. Putnam's Sons. 1878. (For sale by A. Williams & Co.)

Clinical Diagnosis: A Hand-Book for Students and Practitioners of Medicine. Edited by James Finlayson, M. D., Physician and Lecturer in the Glasgow Western Infirmary, etc., etc. With eighty-five Illustrations. Philadelphia: Henry C. Lea. 1878.

Physician's Day Book. By C. Henri Leonard, M. D. Detroit, Mich. 1878. (From A. Williams & Co.)

Series of American Clinical Lectures. Edited by E. C. Seguin, M. D. Vol. III. No. 10. On the Treatment of the Various Forms of Acne and of Rosacea. By R. W. Taylor, M. D., Professor of Diseases of the Skin in the University of Vermont, etc., etc. New York: G. P. Putnam's Sons. 1878.